THE EFFECTS OF THE TRANSCENDENTAL MEDITATION PROGRAM ON ANXIETY, NEUROTICISM, AND PSYCHOTICISM

JEAN ROSS, M.A.
Graduate Department of Psychology, University of Edinburgh, Edinburgh, Scotland

Research completed May 1972.

Anxiety, neuroticism, and psychoticism decreased in people who regularly practiced the Transcendental Meditation technique. —EDITORS

Seventeen students who practiced the Transcendental Meditation technique regularly and 13 who had learned Transcendental Meditation but did not practice it regularly were given the IPAT Anxiety Scale and the Psychoticism, Neuroticism, Extroversion, and Lie scales of the PENL before and 3–4 months after starting the Transcendental Meditation program. It was hypothesized that anxiety, neuroticism, and psychoticism would decline significantly more among the regular meditators than among the irregular meditators. Analyses of covariance showed that neuroticism did decline significantly more among the meditators than the irregular meditators (p < .01). There was a similar trend of greater decreases for the meditating group in anxiety (p = .07) and psychoticism (p = .05), although these differences in changes over the 3–4 month period only approached significance. No changes were observed on the Lie scale or the Extroversion scale of the PENL. In general, the Transcendental Meditation program appeared to bring about an improvement in psychological health, including a reduction in anxiety, within a few months.

INTRODUCTION

The work of Wallace (4), taken together with the studies of blood lactate and anxiety by Pitts (3), suggests that the regular practice of the Transcendental Meditation (TM) technique produces a reduction in anxiety over a fairly short period through its effects on the autonomic nervous system and particularly on lactate production. The present study was designed to test through the use of a psychological measure the hypothesis that TM reduces anxiety. Also, since high anxiety is generally associated with poor psychological health, it was hypothesized that TM would reduce other indicators of psychological maladjustment.

METHOD

Anxiety was measured by the IPAT Anxiety Scale Self-analysis Form (1). The Psychoticism and Neuroticism scales of the PENL (2) were used to measure psychological maladjustment. The other two PENL scales were also given: the Extroversion scale and the Lie scale, which indicates to what extent subjects are attempting to make a good impression throughout the test.

These scales were administered to university students several days before they learned to practice the Transcendental Meditation technique. Thirteen to 16 weeks later, all subjects were sent these same scales in the mail and were asked to fill them out and to return them with a report of how regularly they had been practicing the technique.

RESULTS

Complete data were obtained on 17 subjects who reported that they meditated every day and 13 subjects who reported that they rarely meditated. Table 1 and fig. 1 show the mean Psychoticism scores for both groups before and 3–4 months after they began the TM technique. An analysis of covariance indicated that the decline in psychoticism observed among the meditators approached being significantly different from the change among irregular meditators (p = .05). Since both groups had extremely low mean Psychoticism scores even before

<table>
<thead>
<tr>
<th>GROUP</th>
<th>MEAN PSYCHOTICISM</th>
<th>ANALYSIS OF COVARIANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BEFORE</td>
<td>AFTER</td>
</tr>
<tr>
<td>Meditators</td>
<td>2.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Irregular meditators</td>
<td>2.3</td>
<td>2.3</td>
</tr>
</tbody>
</table>

TABLE 1
MEAN PSYCHOTICISM SCORES
starting TM, very little change was possible for most subjects. Had this scale had a lower floor, it seems likely that the meditators would have declined in psychoticism significantly more than the irregular meditators, given the trend found in this study.

Figure 2 and table 2 show the mean Neuroticism scores for both groups before and 3–4 months after they learned TM. An analysis of covariance indicated that the meditators' neuroticism declined significantly more than that of irregular meditators \((p < .01)\).

Table 3 shows the mean Extroversion scores for both groups before and 3–4 months after they learned the TM technique. Very little change was observed in either of the two groups, and a significant difference between changes was not found. Lie scale scores among the meditators were 3.8 at pretest and 4.5 at posttest; among the irregular meditators scores were 2.8 and 2.6, respectively. These means are quite low. Very little change in Lie scale scores occurred in either group, and the difference in the changes was not significant.

Table 4 and fig. 3 show the mean Anxiety scores, as measured by the IPAT, for both groups before and 3–4 months after they began TM. A \(t\)-test for paired data showed that a significant decline in anxiety occurred among both the meditators \((p < .01)\) and the irregular meditators \((p < .05)\). An analysis of covariance indicated that although anxiety declined more among the meditators than among the irregular meditators, the difference in the amount of change only approached significance \((p = .07)\).

**DISCUSSION**

This study shows that within 3–4 months of starting the TM technique, meditators declined significantly more than irregular meditators in neuroticism. A similar trend toward declining psychoticism, which approached significance, was also observed. Although anxiety declined significantly for the meditator group after 3–4 months of regular meditation, it also declined in the irregular meditator group. The meditator group showed a
greater decrease in anxiety on the average than the irregular meditator group, but the difference in changes only approached significance. In general, however, these results support the hypothesis that TM quickly produces significant changes in the direction of improved mental health and reduced anxiety. The observed changes cannot be ascribed to the effect of the meditators’ merely trying to make a favorable impression on the posttest, because the Lie scale scores did not change significantly from pretest to posttest.

No reason was apparent for the significant decline in Anxiety scores among the irregular meditator group. However, since the psychological rest brought about by the practice of the TM technique occurs from the first time the technique is practiced, it is possible that the relatively small number of meditations for those who learned TM but stopped practicing it regularly was sufficient to bring about a significant drop in general anxiety. Unfortunately, a no-treatment control group was not used in this study.

The lack of change on the Extroversion scale of the PENL was not unexpected. The deep rest produced by TM should lead to more orderly and integrated functioning on the levels of both physiology and psychology. However, it should not change personality traits not associated with maladjusted functioning. Since a high degree of psychological health can be associated with almost any state along the introversion-extroversion continuum, the TM program would not be expected to change this factor in any one direction. Rather, one would predict that where changes do occur in extroversion after an individual learns TM, the change would be in the direction of whatever was appropriate for more effective functioning on the part of that individual.

**REFERENCES**